AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1-11. (Cancelled)

12. (Currently Amended) A method of enhancing the specificity of a potato tuber lipoxygenase for position 11 of arachidonic acid, wherein the potato tuber lipoxygenase consists of SEQ ID NO: 3, which method comprises ~~comprising~~ changing the ~~at least one~~ amino acid at position 576 ~~in a wild type potato tuber lipoxygenase comprising an amino acid sequence~~ of SEQ ID NO: 3 to a Phe residue, ~~wherein the change takes place at position 576 of SEQ ID NO: 3, and~~ whereupon the specificity of the potato tuber lipoxygenase for position 11 of arachidonic acid is enhanced.

13. (Cancelled)

14. (Previously Presented) The method according to claim 12, characterized in that the amino acid change is effected by directed mutagenesis.

15. (Previously Presented) The method according to claim 13, characterized in that the amino acid change is effected by directed mutagenesis.

16. (Previously Presented) An isolated or purified lipoxygenase obtained by the method of claim 12.

17. (Cancelled)

18. (Previously Presented) An isolated or purified nucleic acid encoding the lipoxygenase of claim 16.

19. (Cancelled)

20. (Previously Presented) An isolated or purified vector comprising the nucleic acid of claim 18.

21. (Cancelled)

22. (Previously Presented) An isolated cell comprising the nucleic acid of claim 18 and/or a vector comprising said nucleic acid.

23. (Cancelled)

24. (Withdrawn) A plant or a plant part comprising the cell of claim 22.

25. (Cancelled)

26. (Withdrawn) A method for producing 11-perhydroxy arachidonic acid or the reduced 11-hydroxy derivative thereof comprising incubating arachidonic acid with the lipoxygenase of claim 16 under appropriate conditions, whereupon 11-perhydroxy arachidonic acid is obtained, and, optionally, reducing the 11-perhydroxy arachidonic acid, whereupon the reduced 11-hydroxy derivative thereof is obtained.

27. (Cancelled)

28. (Withdrawn) An arachidonic acid derivative containing a hydroxy group at position 11.